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ABSTRACT

This paper is intended primarily for elementary school teachers. It summarizes what is known about classroom anxiety and how teachers can reduce this anxiety and its detrimental effects. This is a nontechnical literature review designed to give advice to practitioners. The paper describes kinds of anxiety and outlines three different methods of coping with it: (1) altering the situation, (2) altering the students' emotional responses to anxiety provoking situations, and (3) strengthening the cognitive processes that are adversely affected by anxiety. Methods of diagnosing anxiety and applying treatments are specified. (Author)

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Introductory Statement

The central mission of the Stanford Center for Research and Development in Teaching is to contribute to the improvement of teaching in American schools. Given the urgency of the times, technological developments, and advances in knowledge from the behavioral sciences about teaching and learning, the Center works on the assumption that a fundamental reformulation of the future role of the teacher will take place. The Center's mission is to specify as clearly, and on as empirical a basis as possible, the direction of that reformulation, to help shape it, to fashion and validate programs for training and retraining teachers in accordance with it, and to develop and test materials and procedures for use in these new training programs.

The Center is at work in three interrelated problem areas: (a) Heuristic Teaching, which aims at promoting self-motivated and sustained inquiry in students, emphasizes affective as well as cognitive processes, and places a high premium upon the uniqueness of each pupil, teacher, and learning situation; (b) The Environment for Teaching, which aims at making schools more flexible so that pupils, teachers, and learning materials can be brought together in ways that take account of their many differences; and (c) Teaching the Disadvantaged, which aims to determine whether more heuristically oriented teachers and more open kinds of schools can and should be developed to improve the education of those currently labeled as the poor and the disadvantaged.

Research and Development Memorandum No. 60, which follows, discusses ways of reducing anxiety in school children, and grew out of the Uncertainty Studies project of the Heuristic Teaching program.

Preface

An extensive literature presently exists concerning anxiety, its effect on school performance, and ways of ameliorating these effects. A number of generalizations may be derived from this literature concerning effective ways of teaching anxious children. The purpose of this paper is to summarize these generalizations and to specify ways of applying them in the classroom. It is intended for classroom teachers and purports only to offer reasonable suggestions. Although the ideas contained in it are based on research, many of the specific teaching practices suggested have not been empirically studied in classroom settings.

THE TEACHER AND THE ANXIOUS CHILD

Joan E. Sieber and Susan Belden Crockenberg[1]

Among teachers there is an intuitive belief that anxiety interferes with children's learning, and in most respects, research substantiates this notion. However, researchers have also found that anxiety may even improve performance of simple tasks that require only rote memorization or the following of simple instructions. A more accurate statement, then, would be that while anxiety may improve performance of some simple tasks, it interferes with some of the complex processes of observation and thought required for problem solving or original thinking. The authors' work at Stanford and the work of other researchers supports this generalization; anxiety appears to decrease ability to remember, to attend to information, and to organize details (Borkowski & Mann, 1968; Feldhusen & Klausmeier, 1962; Sarason, Lighthall, Davidson, Waite, & Ruebush, 1960; Sieber, Kameya, & Paulson, in press; Spielberger, 1966). These, of course, are some of the very abilities teachers hope to improve through education. It is important, therefore, that they have some understanding of the nature of anxiety, how to diagnose it, and how to reduce its undesirable effects.

The purpose of this paper is to summarize for teachers what is known about test anxiety. Research has revealed various ways of reducing the undesirable effects of test anxiety. Ways of translating these findings into classroom practice will be explored.

Definition and Diagnosis

Let us consider first the nature of anxiety. Although there is little agreement on the exact definition of anxiety, it is generally regarded as a sense of uneasiness a person experiences when he feels he cannot cope successfully with a given situation, and may therefore suffer some undesirable consequence.

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For example, a child may be anxious because he believes that he will be punished for failure to do acceptable work at school, or that he will be ridiculed by other children. Or he may be anxious because he believes that his parents will punish him for some past or future misbehavior by withdrawal of their love, by abandoning him, or by harming him physically. The authors' concern here is primarily with children's anxiety about the adequacy of their performance in school.

So far, the way an anxious person feels and the presumed causes of anxiety have been described. However, these kinds of definitions do not tell how to diagnose whether a child feels anxious. A diagnostically useful definition is in terms of observable symptoms: How do children act when they feel anxious? Some symptoms of anxiety are perspiring palms, rapid heartbeat, dry throat, nervousness, and crying. Anxiousness is often difficult to detect, however, since many children learn to hide their anxiety under bravado and to avoid situations in which their adequacy may be tested. Thus, an anxious child may admit to anxiety or deny it. He may cry and tremble, or show no emotion at all. He may avoid problems, blunder through them, or work with extreme caution.

Since the first step in dealing constructively with children's anxiety is correct diagnosis, these ambiguities may be perplexing. However, one rule of thumb is to consider a child anxious if he exhibits any of these symptoms (including bravado, or denial of warranted concern), or if he says that he is nervous or afraid. This rule is especially appropriate in the case of the treatments to be suggested, since all may be beneficial, even if the child is relatively nonanxious.

Ways in which teachers may deal with children's anxieties fall into three categories: (a) The situation that causes anxiety may be altered or eliminated; (b) the child's emotional responses to anxiety-arousing situations may be altered so that the same situation no longer makes him anxious, and (c) the child may be given special training in those thinking and problem-solving skills which are adversely affected by anxiety. Each approach will be examined in detail.

Treatment

Altering the Situation

To alter a situation so that it no longer produces anxiety, the teacher needs first to discover what aspects of a situation are anxiety arousing. For

example, since many students are anxious about taking tests, it generally has been assumed that test taking per se produces anxiety. But current evidence suggests that it may be the evaluative nature of tests that is most disturbing (Wallach & Kogan, 1965). That is, some children fear that they may perform poorly in relation to some established standard. Thus, tests need not be eliminated entirely in order to reduce anxiety. Instead, the consequences of test taking might be altered, so that tests are regarded as learning devices rather than final measures of students' adequacy. Incorrect responses are then considered indicators of areas where more work is needed, rather than indicators of failure. The standard of evaluation is changed from ability to get items "right" to ability to diagnose and remedy one's weaknesses. If the student accepts this redefinition of the purpose of tests, then his anxiety associated with test taking should decrease and his performance should improve.

To insure that children actually perceive tests as less evaluative, the details of this change need to be spelled out carefully. The first step is to convey to students the idea that tests may serve other than evaluative purposes. This notion could be developed in a classroom discussion about reasons for taking tests, or the teacher might indicate his philosophy of testing to the class at the beginning of the year. Some alternative ways of using tests which might be discussed with the class are (a) as indicators to the students of areas in which they need to do additional work; (b) as indicators to the teacher of what should be emphasized or retaught; (c) as opportunities for students to learn by pulling information together in a new way to answer a question.

Unless the teacher's actions are consistent with his words, however, students will continue to perceive tests as a method for assigning grades. A number of experiences will be required to convince children that tests can be used to help them learn, rather than merely to assign a grade. To facilitate this understanding, the teacher might follow up tests by reteaching ideas not grasped by many children, and by providing special work for children who failed to answer many questions. Then, if it is necessary to assign a grade, the grade could be based on later tests taken after the children have had ample opportunity to learn and integrate the subject matter. This "second chance" arrangement is

closer to what happens in the business and professional world than is the traditional "one try and you're finished" approach. A young teacher, for example, doesn't lose her job just because her discipline is poor during her first few months of teaching. Rather, this experience is viewed as an opportunity to learn. Similarly, there is no reason a child should be taught to feel that a single test will have unalterable consequences.

The procedure of altering classroom situations to avoid anxiety is applicable wherever anxiety-arousing conditions exist. Children may experience anxiety when they are required to perform or to display their work before an entire class, or when they are given ambiguous tasks to perform. Any of these requirements could be reduced or eliminated, at least for those who are upset by them. Even when anxiety-producing conditions are alterable, however, changing the situation is not always a reasonable solution. It is hardly practical to alter classroom routines for a few, especially when such alterations would not be beneficial to other class members. For example, eliminating individual student presentations before the rest of the class would deprive the entire class of certain communication opportunities. And remembering that certain students should not be asked to report before the class would do nothing to help those children with their public-speaking problems. Thus, a rule is needed for deciding when it is reasonable to change routines and when some other approach would be more appropriate.

Such a rule is that it is most reasonable to alter a situation when there is good cause for a student's anxiety within that situation. To illustrate, a student may be anxious about performing before persons who make cutting personal remarks. In this case, various constructive changes could be made in the situation. Social relations among students might improved by role-playing methods (Shaftel & Shaftel, 1969). Or, if the destructive criticism is a backhanded form of competition, it might be reduced by deemphasizing testing and grading. The teacher might restrict comments in discussion to constructive criticisms and spend some time teaching students to distinguish between constructive and destructive criticism. Or other changes might be necessary to break up old patterns of behavior. For example, students might be regrouped to alter patterns of animosity.

Contrast the case of the child who is upset by destructive criticism with the situation of the student who, because of some prior experience, is anxious about performing before any group. This kind of problem might be more appropriately dealt with by altering the child's emotional response to the situation.

Altering the Emotional Responses

Desensitization or counterconditioning of anxiety--call it what you will--means learning not to feel anxious (for a detailed discussion of counterconditioning anxious persons, see Wolpe, 1966). Teaching children not to feel anxious without eliminating or altering the situation which originally caused the anxiety requires time and planning. It is well worth the effort, however, to desensitize children who experience fears or anxiety in situations which do not bother the rest of the class.

Like the approach discussed earlier, effective desensitization requires discovery of the factors causing the anxiety. Is it strange places, male teachers, groups of people? Then, the anxiety-producing factors are generally introduced under favorable conditions so that the student's nervous system "learns" not to be anxious. Most individuals have desensitized themselves of a fear at one time or another. Fear of spiders or crowds, perhaps? First one deals with very small ones that don't badly frighten him. Then he might watch from a distance while a friend deals with slightly larger ones. If he still feels at ease, he joins the friend. Gradually he works up to big ones, reminding himself to relax, giving fear no chance to recur. At last--desensitized.

How does a teacher desensitize an anxious child? First, he tries to determine what is upsetting the child. For example, if a child becomes anxious when working with groups of children, the teacher might try to discover whether he is most anxious with children of the opposite sex, bright children, large groups, or science lab groups.

Then the teacher introduces him to a very mild version of whatever makes him anxious--a small amount of it, at a distance, in a playful context, for a short while, mixed with things he enjoys. He lets the child's best friend accompany him. Perhaps the friend can participate while the child watches.

Third, the teacher always concludes the desensitizing sessions while things are still pleasant and relaxed. He makes sure the sessions have been rewarding and worthwhile.

Fourth, when it seems clear that the child is finding himself at home in the situation, the teacher gradually introduces him to larger doses of it. By gradual steps, he removes the props and security blankets, the friends, food or games, until the child has worked his way up to full participation in the once-terrifying situation, this time without fear.

Fifth, if the teacher happens to have tried for too rapid progress, and fear has crept in, he begins anew--slowly.

And finally, the teacher keeps in mind that cast-off fears are easily relearned. He makes sure that the once-feared situation remains rewarding and attractive.

Of course, desensitizing and changing situations are not mutually exclusive ways of reducing anxiety. Few anxiety-producing situations can be changed so entirely that some desensitizing is not useful. Suppose, for example, that it is impossible to entirely eliminate tests for grading purposes. Then, in addition to introducing the new philosophy of testing discussed earlier, anxious students might be desensitized to testing. Beginning with some short, easy, and entertaining quizzes on which they will not be graded, students gradually could be led back to more serious testing situations. Situations which provoke anxiety in only one student call for counterconditioning. Nevertheless, any improvements in those situations, such as clearer instructions, more constructive and impersonal criticism, emphasis on signs of progress and not on signs of failure, would be all to the good.

The main purpose of changing situations and of desensitization is to help children to avoid experiencing strong emotions which interfere with their ability to think and solve problems. But obviously, calmness alone doesn't solve problems. Problem-solving skills are necessary. The relationship between anxiety and problem-solving ability is interesting to consider. It is possible to create so much anxiety that a child is unable to use his problem-solving skills. But this process probably works the other way as well: persons with few problem-solving skills have good reason to become anxious in evaluative situations. It is easy to imagine what happens over time. Poor problem solving leads to anxiety

which further hampers problem solving. Granted, there are students with excellent intellectual habits who nevertheless break down under anxiety-producing conditions. But, in many cases, the main problems of the anxious student (such as inattention, inability to remember details and to use them in complex mental operations, and acting without thinking) continue to exist even when he is not anxious. The details of these problems and ways of dealing with them are the topic of the final section.

Improving Intellectual Skills

As yet, the effects of anxiety on intellectual processes are not well understood. However, research indicates that attention, memory, and reflective thinking are often adversely affected by anxiety (Sarason et al., 1960; Sieber et al., 1969; Wallach & Kogan, 1965.) Some procedures for improving these intellectual skills have been developed and tested, and the results look promising enough to warrant the following speculative advice.

The first step in thinking and problem solving is paying attention to the relevant material. Anxious persons often misread problems, overlook details, and misunderstand instructions. Apparently, they are too preoccupied with distracting thought and fear of failure to examine problems carefully.

Attention to details can be increased with proper instruction. The steps required to do so are simple:

a. Select a problem that is to be solved or considered. For example, students may be asked to discover what numbers belong in an incompleted row of a Pascal's triangle.

b. Provide students with the relevant information. To continue with our example, present students with the Pascal's Triangle:

```
                    1
                  1   1
                1   2   1
              1   3   3   1
            1   4   6   4   1
          1   5  10  10   5   1
        1   6  15  20  15   6   1
      1   7  21  35  35  21   7   1
    -   -   -   -   -   -   -   -   -
```

c. Instead of requiring students to solve or consider the problem, ask them to describe or write down every characteristic of the problem that they can discern--facts, relationships, ambiguities, or whatever they note about the problem. "All the outside numbers are 1's." "The numbers get larger toward the middle." "No number is directly below a number in the row just above it."

d. Point out any types of problem characteristics which the students seem to be ignoring. "Can you obtain one of the numbers in the triangle by adding together any of the other numbers in the triangle?"

e. Give praise for each possible characteristic that is observed, and encourage the search for more. "Very good! What else did you notice?" Inaccurate or incorrect observations need to be corrected before they are acceptable.

f. As each new detail is discerned, discuss and explore its relevance to understanding and solving the problem. "If the diagonal beside the row of 1's increases by one with each place downward, what does that tell you about what goes in two of the blank spaces?" In addition, point out that one does not always know ahead of time what information will be helpful in finding the solution to a problem. "Who knows, summing each row might turn out to tell you something about the problem." Help students to realize that thoughtful observation may lead to insight into solutions.

g. If given, grades may be based on the number of details observed as well as the correctness of solutions. Thus, partial credit may be earned for noting problem details, even if a correct answer is not found.

The ability to observe details and see ways in which they may be related to finding a solution increases rapidly with practice. Students might record the number of details they find on various occasions as evidence of their progress.

After the problem solver notes details and figures out possible solutions, he comes to the task of determining the best or most appropriate solution. Since anxious children are frequently poor evaluators, teachers may need to help them out by making clear what the task is, and by indicating what conditions must be met for the answer to be satisfactory, or what would make one answer better than another. Finally, students should be given practice at setting goals and evaluating their own progress in relation to these goals.

Another aspect of problem solving is discovering possible steps to a solution and holding those steps in short-term memory long enough to piece them together and evaluate the result. (Short-term memory refers to remembering something for a few minutes or less, such as remembering a telephone number long enough to dial it.) Anxious persons have difficulty holding related details in short-term memory long enough to organize them into a satisfactory solution. This is a serious handicap, since problem solving often places heavy demands on short-term memory, as the following examples illustrate: Suppose that a child is trying to compose a story with an intricate plot. Various exciting versions of the plot may occur to him before he actually begins to write. He must discover the best of the many ways in which he can piece together the plot. In addition, each link of the sequence of events must be coordinated with the rest of the story so that all of the details fit together logically. Some other situations which call for the ability to remember and experimentally rearrange components to discover the best solution include games, mathematics problems, understanding a novel, balancing a chemical equation, or rendering a good English translation of an idiom-laden passage in French.

There are a number of ways to reduce demands on short-term memory during problem solving. When the necessary information is available in books, maps, pictures, or diagrams, children should be encouraged to refer freely to this information instead of having to remember it. In addition, anxious children could be taught to take notes, outline information, and diagram ideas. What they cannot organize entirely in their heads, they might be able to do on paper. For example, to understand the plot of a complex story in order to write a good review, a pupil may need to take notes of the important details and then to diagram the order in which they fit together.

Creative work requires trying out new ideas and selecting the best of them. Students should be urged to keep orderly records of their past attempts at problem solving so that they may refer back to them from time to time to avoid repeating errors. For example, in solving an equation, there is no point in completely scribbling out unsuccessful attempts. It would be better to circle the initial attempt, examine it to see what could be learned about the reasons for failure, and then go on trying a different solution. A clear record of prior attempts will help the problem solver to determine the point at which he needs to stop and plan ahead to avoid old pitfalls.

Another reason why anxious children are often unable to remember problem details is that they frequently rush through problems. This helps get the anxiety-producing problems over with and pleases teachers who reward quick answers. Teachers could reduce such rushing by emphasizing the importance of stopping to think, and by asking children to pause before volunteering answers. A child could be rewarded for pausing to think before acting, rather than for having the first hand up.

Once learned, good problem-solving habits will probably persist. An understanding teacher will not always be on hand to request that students search out, consider, and write down details of problems. But if the techniques are effective, their usefulness may be sufficient to maintain them as habits.

References

Borkowski, J., & Mann, T. Effects of anxiety and interference on short-term memory. Journal of Experimental Psychology, 1968, 78, 352-354.

Feldhusen, J. F., & Klausmeier, H. J. Anxiety, intelligence, and achievement in children of low, average, and high intelligence. Child Development, 1962, 30, 403-409.

Sarason, S. B., Lighthall, F. F., Davidson, K. S., Waite, R. R., & Ruebush, B.K. Anxiety in elementary school children. New York: Wiley, 1960.

Shaftel, F., & Shaftel, G. Role-playing for social values: Decision-making in the social studies. Englewood Cliffs, N. J.: Prentice-Hall, 1969.

Sieber, J. E., Kameya, L. I., & Paulson, F. L. The effect of memory support on the problem-solving ability of test-anxious children. Journal of Educational Psychology, in press.

Spielberger, C. D. The effects of anxiety on complex learning and academic achievement. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966. Pp. 361-398.

Wallach, M. A., & Kogan, N. Modes of thinking in young children. New York: Holt, Rinehart, & Winston, 1965.

Wolpe, J. The conditioning and deconditioning of neurotic anxiety. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966. Pp. 179-190.